



## PATENT ABSTRACTS OF JAPAN

(11) Publication number: **09051097 A**(43) Date of publication of application: **18.02.97**

(51) Int. Cl.

**H01L 29/78****H01L 21/20**(21) Application number: **08132429**(22) Date of filing: **27.05.96**(30) Priority: **31.05.95 JP 07133346**(71) Applicant: **MATSUSHITA ELECTRIC IND CO LTD**(72) Inventor: **NIWA MASAOKI**(54) **FIELD EFFECT TRANSISTOR AND MANUFACTURE THEREOF**

the direction I on the substrate 10.

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(57) Abstract:

**PROBLEM TO BE SOLVED:** To reduce the boundary scattering of running electron and to improve the element characteristics by extending a step disposed at the boundary of a plurality of terraces having smooth surfaces included in the semiconductor substrate surface the lengthwise direction of a channel.

**SOLUTION:** The surface of a silicon substrate 10 is formed of a plurality of steps and terraces, the upper surfaces of the terraces are in plane (001), and smooth in a microscopic scale. At the surface of the substrate 10, the steps are formed at the boundary of two adjacent terraces. That is, the upper side terrace of a relatively high level and the lower side terrace of a relatively low level are disposed adjacent via the steps. The number of the steps crossing the linear line parallel with the direction I is extremely less than the number of the steps crossing the linear light parallel with the direction II. The steps are extended straightly along the direction I in a macroscopic scale. That is, the terrace of the smooth surface is extended long along

